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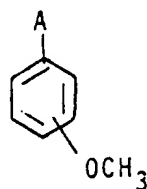
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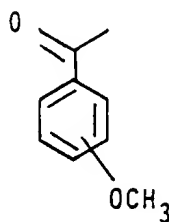
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Louse repellent compositions.

The use of a compound of general formula I in the manufacture of a medicament having pediculicidal or louse repellent properties



A is $-\text{CH}_2\text{OR}$, $-\text{CHO}$, $-\text{CO}_2\text{R}^1$
wherein
R is H, C_1 to C_5 alkyl or



and
 R^1 is H or C_1 to C_3 alkyl

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This invention relates to louse repellent compositions.

We have surprisingly found that a range of methoxy aromatic compounds have louse repellent and pedicidal properties.

According to the invention there is provided the use of a compound of general formula I in the manufacture of a medicament having pedicidal or louse repellent properties



15 A is $-\text{CH}_2\text{OR}$, $-\text{CHO}$, $-\text{CO}_2\text{R}^1$

wherein

R is H, C_1 to C_6 alkyl or

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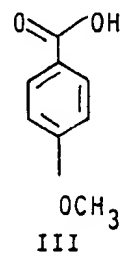
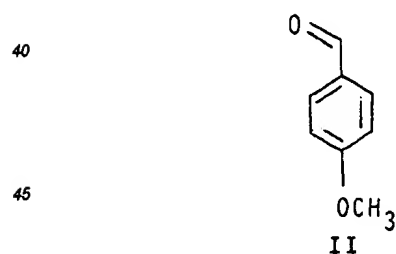
and

R^1 is H or C_1 to C_3 alkyl

The para isomer is often somewhat preferred on cost grounds but ortho and meta isomers are both usable.

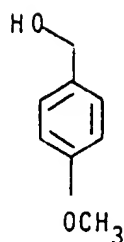
35 Some of the compounds such as p-anisaldehyde have agreeable odours and may be preferred.

Preferred compounds of the invention include 4-methoxybenzaldehyde (II), 4-methoxybenzoic acid (III), 4-methoxybenzyl alcohol (IV) and p-anisyl p-anisate (V)

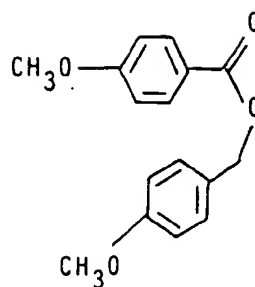


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IV



V

At least some of the compounds are readily available commercially. Those skilled in the art will readily be able to obtain others.

The active ingredient is conveniently applied directly to the hair. Those skilled will readily be able to devise vehicles for doing this. Convenient forms include lotions gels and mousses which may be prepared in a manner familiar to those skilled in the art.

Preferably the compounds are presented in alcoholic solution. The alcohol may be ethanol, propanol especially isopropanol, other alcohols or mixtures thereof. Preferably aqueous alcohol is used to reduce the possibility of skin irritation.

The efficiency of the composition may be enhanced by ensuring that it has a tendency to coat the hair. This can be achieved by incorporating spreading film formers such as silicones, soluble lanolin or soluble polymers such as PVP optionally copolymerised with vinyl acetate.

Many of the compounds of the invention are solid at room temperature and may have a tendency to crystallise from alcohol solution at low temperature eg about 0°C. The crystals may block the dispenser. This problem can be substantially reduced by incorporating an emulsifier.

Preferably two emulsifiers are employed. A, the or each emulsifier may be a nonionic emulsifier such as alkoxylated fatty alcohol or fatty acid. The emulsifier keeps the active ingredient in solution and deters crystallisation. Where two emulsifiers are used the solubilisation appears to be increased synergistically. Where emulsifier is present the active ingredient tends to form a film rather than to crystallise rapidly in use.

High alcohol concentrations are preferably avoided to reduce the possibility of irritation. Furthermore the comparatively high water content makes the composition pleasant to use. Preferred concentrations of active are from about 0.5 to 1 wt% more preferably 1 to 3 wt%. The compositions may also preferably contain phenoxyethanol as an antimicrobial preservative.

Examples of the invention will now be described by way of illustration.

Example 1

An aqueous alcoholic mousse was prepared by heating to 60°C all the following components other than the propellant. The warm mixture was transferred to aerosol containers and charged with propellant in the usual way.

	wt%
p-Anisaldehyde	2-10
Ethanol	50
Water	qs
Propylene glycol	5
Polawax A31	5

Propellant

Polawax A31 is an ethoxylated cetostearyl alcohol oil in water emulsifying wax. It is designated Cetareth-20 by the CTFA.

Example 2

An aqueous alcoholic lotion was prepared by mixing the following components:

	wt%
p-Anisaldehyde	2-10
Eumulgin RO40	1-10
Eumulgin L	5-30
Water	qs

Eumulgin RO40 is an ethoxylated castor oil and Eumulgin L is a 2-hydroxy fatty acid alkoxylate. Both are available from Henkel AG.

Example 3

An aqueous alcoholic lotion was prepared by mixing the following ingredients:

	wt%
p-Anisaldehyde	2-10
Dow Corning 190	0.5-2.0
Ethanol	15-40
Isopropanol	5-30%
Water	qs

Dow Corning 190 is modified silicone fluid.

Example 4

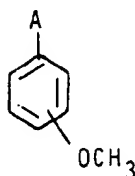
An aqueous alcoholic lotion was prepared in a similar manner to the lotion of Example 3. However the Dow Corning 190 was replaced by 1-3 wt% of the soluble lanolin Lanexol AWS.

Example 5

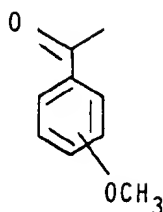
An aqueous alcoholic lotion was prepared in the same way as the lotion of Example 3. However the Dow Corning 190 was replaced by 1-3 wt% of a soluble polymer of the Kollidon series which are polyvinylpyrrolidones which are copolymerised in some cases with vinyl acetate.

Claims

1. The use of a compound of general formula I in the manufacture of a medicament having pediculicidal or louse repellent properties



A is $-\text{CH}_2\text{OR}$, $-\text{CHO}$, $-\text{CO}_2\text{R}^1$
 wherein
 R is H, C_1 to C_5 alkyl or



and
 R^1 is H or C_1 to C_3 alkyl

2. The use as claimed in claim 1, wherein the compound of general formula I is 4-methoxybenzaldehyde, 4-methoxybenzoic acid, 4-methoxybenzyl alcohol or p-anisyl p-anisate.
3. The use as claimed in claim 2 wherein the compound of general formula I is 4-methoxybenzaldehyde.
4. A pediculicidal or louse repellent composition comprising:
 - i) at least 0.5 wt% of a compound of formula I
 - ii) aqueous alcohol and
 - iii) an emulsifier, or
 - iv) a spreading film former.
5. A composition as claimed in claim 4, wherein the emulsifier comprises ethoxylated castor oil fatty acids.
6. A composition as claimed in claim 4 wherein component iv is a silicone, lanolin, or polyvinylpyrrolidone.



**European Patent
Office**

EUROPEAN SEARCH REPORT

Application Number
EP 94 30 5277

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	FR-A-2 417 257 (AJINOMOTO CO., INC.) ---		A01N35/04
A	US-A-1 963 955 (C.R.CLEVELAND) ---		A01N31/14
A	US-A-2 400 006 (H.A.JONES ET. AL.) ---		A01N37/40
A	GB-A-488 519 (I.G.FARBENINDUSTRIE AKTIENGESellschaft) 4 August 1938 -----		A61K31/11
			A61K31/19
			A61K31/085
			A61K31/235
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A01N
			A61K
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The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	26 September 1994	Donovan, T	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone V : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			